

Abstract

The invention includes an apparatus and a method of error correction coding data wirelessly transmitted through multiple transmission channels. The method includes receiving a plurality of data streams for transmission through spatially separate antennae. At least one bit from each of a plurality of data streams is selected forming a first bit grouping. At least one other bit from each of the plurality of the data streams is selected forming a second bit grouping. The first bit grouping is coded. The second bit grouping is coded. Finally, the coded first bit grouping and the coded second bit grouping are transmitted. The invention also includes a method of error correction decoding data wirelessly received through multiple transmission channels. The method includes receiving a plurality of data streams received through spatially separate antennae. At least one bit from each of the plurality of data streams is selected forming a first bit grouping. At least one other bit from each of the plurality of the data streams is selected forming a second bit grouping. The first bit grouping is decoded. The second bit grouping is decoded. Decoded bit streams are constructed based upon the decoded first bit grouping and the decoded second bit grouping.